

1                   CLAIMS

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3       1.     A method, comprising:

4           receiving information from a computer program regarding one or more

5           display controls that are included in a display list of a graphical user interface;

6           managing display list elements displayable by the display controls by

7           accessing a data source that populates the display controls with the display list

8           elements according to scrolling events received, the scrolling events being related

9           to the display list; and

10           wherein the computer program may be altered to change a visual

11           appearance of the display controls and the graphical user interface without

12           affecting the management of the display list elements.

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14       2.     The method as recited in claim 1, wherein the receiving information

15           from a computer program further comprises receiving information regarding a

16           number of display controls included in the display list.

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18       3.     The method as recited in claim 1, further comprising linking to the

19           display controls and to the data source.

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21       4.     The method as recited in claim 1, further comprising providing a

22           link between the data source and the display controls.

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24       5.     The method as recited in claim 1, wherein the display controls

25           further comprise selectable controls.

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2       6. The method as recited in claim 1, wherein:

3           the display controls further comprise selectable controls; and

4           the scrolling events occur by user selection of a display control.

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6       7. The method as recited in claim 1, wherein the scrolling events

7           further comprise one or more of the following scrolling events: scroll next item,

8           scroll previous item, scroll next page, scroll previous page, scroll to first item,

9           scroll to last item, scroll up system, and scroll down system.

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11       8. A list manager control stored on one or more computer-readable

12           media that include computer-executable instructions that, when executed on a

13           computer, perform the following steps:

14           creating a list manager in an application;

15           receiving settings for list manager properties that control list manager

16           behavior;

17           configuring the list manager to receive information from a graphical user

18           interface regarding display controls in a display list of the graphical user interface

19           and determine appropriate display list elements to display in the display controls;

20           and

21           wherein the steps are performed without regard for a layout of the graphical

22           user interface.

1       9.    The list manager as recited in claim 8, further comprising  
2   configuring the list manager to determine the appropriate display list elements by  
3   responding to scrolling events that correspond with the display list.

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5       10.   The list manager as recited in claim 8, further comprising  
6   configuring the list manager to access a data source to retrieve the display list  
7   elements.

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9       11.   The list manager as recited in claim 8, further comprising  
10   configuring the list manager to respond to a selection of a display control to trigger  
11   specific scroll behavior.

12       12.   The list manager as recited in claim 11, wherein the specific scroll  
13   behavior that may be triggered comprises one of the following scroll behaviors:  
14   scroll next item; scroll previous item; scroll next page; scroll previous page; scroll  
15   to top item; scroll to bottom item; scroll up system; and scroll down system.

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17       13.   A system, comprising:  
18        a computer processor;  
19        memory;  
20        a display that displays a graphical user interface that includes one or more  
21   selectable display controls that form a display list;  
22        graphical user interface software that controls the visual appearance of the  
23   graphical user interface;  
24        a data source that includes display list elements that are displayable in the  
25   display controls of the display list;

1       a scrolling source that provides scrolling events that occur with regard to  
2 the display list;

3       a list manager that manages the display list elements that are displayed in  
4 the display controls of the display list by determining an appropriate action to take  
5 in response to the scrolling events; and

6       wherein the list manager is a separate process from the graphical user  
7 interface software.

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9       14. The system as recited in claim 13, wherein the graphical user  
10 interface software operates independently of the list manager so that altering the  
11 graphical user interface does not alter the way in which the list manager manages  
12 the display list.

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14       15. The system as recited in claim 13, wherein the list manager is  
15 contained in an application that utilizes the graphical user interface.

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17       16. The system as recited in claim 13, further comprising a list manager  
18 control that when placed into an application, creates the list manager in the  
19 application.

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21       17. The system as recited in claim 13, wherein the display controls  
22 further comprise button controls.

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24       18. The system as recited in claim 13, wherein the display controls  
25 further comprise slider controls.

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2       19. The system as recited in claim 13, wherein the display controls  
3 further comprise knob controls.  
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5       20. The system as recited in claim 13, wherein the display controls  
6 further comprise meter controls.  
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8       21. The system as recited in claim 13, wherein the display controls  
9 further comprise label controls.  
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11       22. The system as recited in claim 13, wherein the display controls  
12 further comprise palette controls.  
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14       23. The system as recited in claim 13, wherein the display controls  
15 further comprise checkbox controls.  
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17       24. The system as recited in claim 13, wherein the scrolling events  
18 further comprise one or more of the following scrolling events: scroll next item,  
19 scroll previous item, scroll next page, scroll previous page, scroll to first item,  
20 scroll to last item, scroll up system, and scroll down system.  
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22       25. The system as recited in claim 13, wherein the display controls  
23 further comprise a combination of one or more types of controls.  
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1        26. One or more computer-readable media containing computer-  
2 executable instructions that, when executed on a computer, perform the following  
3 steps:

4            receiving data from a graphical user interface program to determine  
5 properties of a display list in the graphical user interface, the display list having  
6 one or more display controls that are selectable by a user;

7            accessing a data source that contains one or more display list elements that  
8 are displayable in the display controls, a display control being able to display one  
9 display list element at a time;

10            populating each display control with a display list element from the data  
11 source according to one or more scrolling events received; and

12            wherein the graphical user interface program is configured independently of  
13 the one or more computer-readable media.

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15        27. The one or more computer-readable media as recited in claim 26,  
16 wherein the properties of the display list are changeable.

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18        28. The one or more computer-readable media as recited in claim 26,  
19 wherein the scrolling events further comprising a scroll next page event and the  
20 populating further comprises clearing the display controls and populating the  
21 display controls with the next number of display list elements that is equal to the  
22 number of display controls.

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24        29. The one or more computer-readable media as recited in claim 26,  
25 wherein the scrolling events further comprising a scroll previous page event and

1 the populating further comprises clearing the display controls and populating the  
2 display controls with the previous number of display list elements that is equal to  
3 the number of display controls.

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5 30. The one or more computer-readable media as recited in claim 26,  
6 wherein the scrolling events further comprising a scroll next item event and the  
7 populating further comprises clearing the display controls and populating the  
8 display controls with a number of display list elements that is equal to the number  
9 of display controls, beginning with a display list element that immediately follows  
10 a first display list element that was contained in a first display control.

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12 31. The one or more computer-readable media as recited in claim 26,  
13 wherein the scrolling events further comprising a scroll previous item event and  
14 the populating further comprises clearing the display controls and populating the  
15 display controls with a number of display list elements that is equal to the number  
16 of display controls, beginning with a display list element that immediately  
17 precedes a first display list element that was contained in a first display control.

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19 32. The one or more computer-readable media as recited in claim 26,  
20 wherein the display controls further comprise one or more of the following types  
21 of controls: button controls; slider controls; label controls, meter controls; knob  
22 controls; checkbox controls; and palette controls.

1       33. The one or more computer-readable media as recited in claim 26,  
2 wherein:

3           the display controls have a property of mutual exclusivity;  
4           the list manager receives events from the display controls; and  
5           the list manager forwards events to the data source so that the data source  
6 can manage the mutual exclusivity.

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8       34. The one or more computer-readable media as recited in claim 26,  
9 wherein:

10           the display controls further comprise a state;  
11           the list manager receives events from the display controls; and  
12           the list manager forwards the events to the data source so that the data  
13 source can manage the state beyond the lifetime of a display list element in a  
14 display control.

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16       35. The one or more computer-readable media as recited in claim 26,  
17 wherein the list manager receives events from the display controls and passes the  
18 events to the graphical user interface program so that the graphical user interface  
19 program can interact with the list manager instead of interacting directly with  
20 display list.

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22       36. The one or more computer-readable media as recited in claim 26,  
23 wherein the list manager manages a display list identifier and a display control  
24 identifier that are used by the graphical user interface program to request

1 additional information regarding a display list item than information that is  
2 currently displayed by the display control.

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